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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/719,379	11/20/2003	Hiroshi Uragami	4597	2559

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EXAMINER

KEBEDE, BROOK

ART UNIT PAPER NUMBER

2823

DATE MAILED: 11/17/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/719,379

Applicant(s)

URAGAMI ET AL.

Examiner

Brook Kebede

Art Unit

2823

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 November 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 5-8 is/are allowed.
- 6) ☒ Claim(s) 1-4 and 9-11 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. _____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-11 are rejected under 35 U.S.C. 102(b) as being anticipated by Utsumi et al. (US/6,081,978).

Re claims 1 and 4, Utsumi et al. disclose a method of resin -encapsulating an electronic component mounted on a main surface of a board (11) (i.e., the lead frame), using a mold pair (31) having an upper mold (31a) and a lower mold (31b) to form a semiconductor device, comprising the steps of: attaching the board (11) on the upper mold (31a) (see Fig. 1(a)); generating melted resin in a cavity provided in the lower mold (31b); immersing the electronic component in the melted resin by closing the mold pair (31); and forming a resin mold product by setting the melted resin in the cavity (see Figs. 1(a) – 7).

Re claim 2, as applied to claim 1 above, Utsumi et al. disclose all the claimed limitations including the limitation wherein in the step of generating melted resin, the melted resin is generated by heating a solid resin material placed in the cavity (see Figs. 1(a) – 7).

Re claim 3, as applied to claim 1 above, Utsumi et al. disclose all the claimed limitations including the limitation wherein an electrode of the board and an electrode of the electronic

Art Unit: 2823

component are connected by a conductive material forming a loop in a prescribed plane and in the step of immersing the electronic component in the melted resin, the prescribed plane moves substantially vertically to a main surface of the melted resin (see Figs. 1(a) – 7).

Re claims 9 and 11, Utsumi et al. disclose a solid resin material used as a raw material of melted resin in a method of resin -encapsulating an electronic component mounted on a main surface of a board by setting the melted resin generated in a cavity provided in a mold pair (31), having such size and shape that correspond to size and shape of the cavity and a notch is formed in said resin material (see Figs. 1(a) – 7).

Re claim 10, as applied to claim 1 above, Utsumi et al. disclose all the claimed limitations including the limitation a space formed by said board and the resin material encloses the electronic component, when the resin material is placed on the main surface of the board; wherein the space is set to have such- a size that said resin material is not in contact with the conductive material connecting the electrode of the board with the electrode of the electronic component (see Figs. 1(a) – 7).

Allowable Subject Matter

4. Claims 5-8 are allowed over prior art of record.

5. The following is a statement of reasons for the indication of allowable subject matter:

The prior art of record neither anticipates nor renders obvious the claimed subject matter of the instant application as a whole either taken alone or in combination, in particular, prior art of record does not teach “placing said board on said lower mold placing said resin material on a main surface of said board such that said resin material is not in contact with a conductive material connecting an electrode of said board with an electrode of said electronic component” as recited in claim 5.

Claims 6-8 also allowed as being dependent of the allowed independent base claim.

Art Unit: 2823

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure Thummel (US/6,287,503), Mess (US/6,335,221), Takahashi et al. (US/6,596,561), and Tsai et al. (US/2003/0235636) also disclose similar inventive subjective matter.

Correspondence

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brook Kebede whose telephone number is (571) 272-1862. The examiner can normally be reached on 8-5 Monday to Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Olik Chaudhuri can be reached on (571) 272-1855. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Brook Kebede
Examiner
Art Unit 2823

Brook Kebede

BK
November 14, 2004